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Levothyroxine

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LEVOTHYROXINE

Molar Mass:

C=12.0(15)×180.0 g/mol
H=1.0(11.0)×11.0 g/mol
I=126.9(4)×507.6 g/mol
N=14.0(1)×14.0 g/mol
O=16.0(4)×64.0 g/mol
776.6g/mol

Literature Value:
777 g/mol

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Chemistry 106-006
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Trade Names:

Eltroxin
Levothy
Levolet
Novothyrol
Synthroid
Unithroid

Images of Levothyroxine:



Water Solubility:

Levothyroxine is soluble in water (25 degrees)
About 15 mg/100 ml

Generic Drug Name:

Levothyroxine

Body's Processing of Levothyroxine:

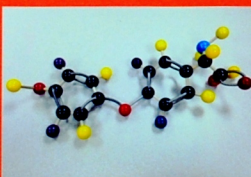
The body takes in Levothyroxine either orally (by mouth) or intravenously (administered into a vein). Fifty to eighty percent of Levothyroxine is absorbed from the gastrointestinal tract and is gradually released into tissue cells.

The body gets rid of Levothyroxine by being eliminated through the gastrointestinal tract within six to 7 days.

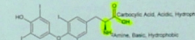
Chemical Formula:

C₁₀H₁₁I₂NO₄

Expanded Structural Formula:



Functional Groups of Levothyroxine:



Classification of Drug:

Thyroid Hormone Replacement

Dosing:

The route and dosage for adults using levothyroxine to treat hypothyroidism (diminished or absent thyroid function) is to take 25-50 micrograms per day by mouth, gradually increasing by 50-100micrograms every 1-4 weeks to usual dose of 100-400 micrograms per day, this is half of the established oral dose for intravenous or intramuscular (usually 50-100 micrograms daily).

When taking the smallest which 25 mcg, there is a 25 mcg tablet available so you would take one tablet.

Labeled Uses:

Labeled uses for Levothyroxine is using specific replacement therapy for diminished or absent thyroid function resulting from primary or secondary atrophy of gland, used after surgery, excessive radiation or anti-thyroid drugs and for congenital defect. By replacing decreased or absent thyroid hormone, it restores metabolic rate of a hypothyroid individual. It is administered orally for hypothyroid state and administered IV for myxedematous coma or other thyroid dysfunctions demanding rapid replacement, as well as in failure to respond to oral therapy.

There are no unlabeled uses for Levothyroxine.

Availability (tablet sizes the manufacturer produces):

25 mcg
50 mcg
88 mcg
100 mcg
112 mcg
125 mcg
137 mcg
150 mcg
175 mcg
200 mcg
300 mcg
200 mcg - injection
500 mcg - injection

Bibliography

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